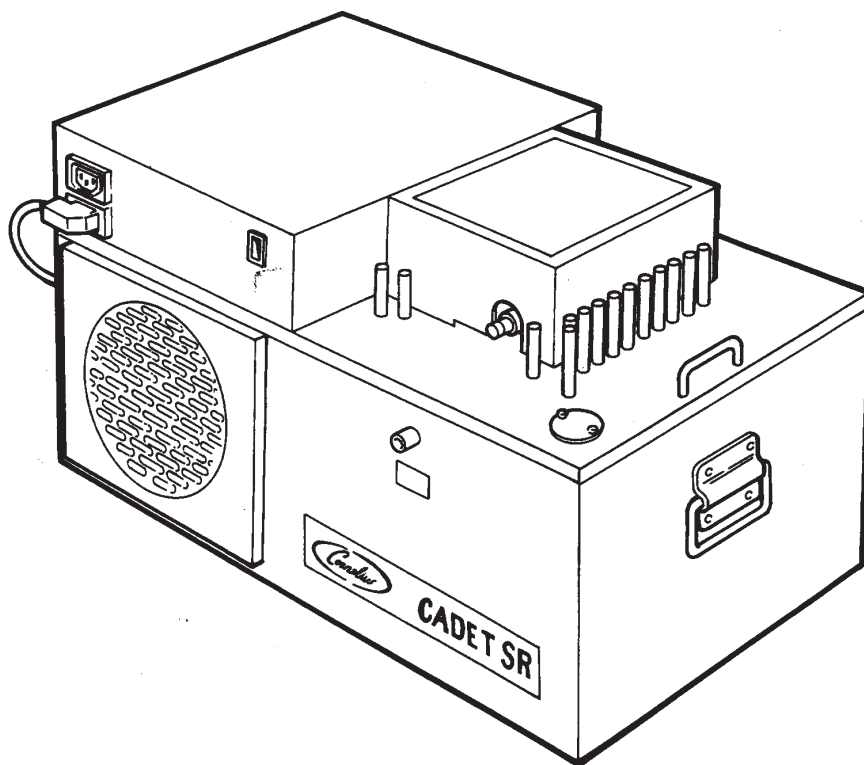




CADET SR





CADET SR

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1. INTRODUCTION

The Cadet SR is a range of medium capacity soft drinks soda recirculating coolers. The unit comprises a cooler producing a nominal 10Kg (22lb) ice bank and a modular design pump/coil deck which recirculates carbonated water through the python and cooling coil. Carbonated water is replenished from the separate ambient carbonator through a pre-cool coil. The unit also has 5 syrup cooling coils and a still water coil.

The unit has been designed with simplicity in mind for installation, maintenance and operation. All product connections are situated at one side of the unit to allow high quality installation work right back to the exit connections. Maintenance is kept to a minimum with easy access and replacement of the serviceable items.



CADET SR

2. SPECIFICATION

DIMENSIONS:

Height (mm)	
Width (mm)	
Depth (mm)	
Weight dry (kg)	
operational (kg)	

Air Cooled		Water Cooled	
Submersible Recirc Pump	Top Mounted Pump	Submersible Recirc Pump	Top Mounted Pump
392	431	392	431
645	645	645	645
476	476	484	484
38.3	43.7	37.3	42.8
62.3	67.7	61.6	67.2
230/240V, 50Hz	230/240V, 50Hz	230/240V, 50Hz	230/240V, 50Hz
13A fused outlet	13A fused outlet	13A fused outlet	13A fused outlet
4.6A	5A	6.4A	6.7A

ELECTRICAL

Voltage	
Current Rating	
Run Current including carbonator	

REFRIGERATION:

Compressor (R134a)	
Condenser Fan	
Nominal Ice Bank (kg)	
Typical Pulldown Time (from 20 Deg C no recirc.)	

Air Cooled	Water Cooled
15cc	18cc
5 Watt motor, 8" fan blade	
10	10
3 hours	2½ hours

RECIRCULATION:

Motor	
Protection	
Pump	
Pump Performance	
Max. Python Length	

Submersible Recirc Pump	Top Mounted Pump
15 Watt Ext Rotor	4 Pole 80W
Thermal Cut-Out	Thermal Cut-out
Single stage mag drive	Stainless Steel
1.0 Litre/min	2.5 Litres/min
25m	35m
9.5mm O.D. x 7.8m (³ / ₈ " O.D. x 25')	9.5mm O.D. x 11.2m (³ / ₈ " O.D. x 37')
9.5mm O.D. x 5.7m (³ / ₈ " O.D. x 19')	9.5mm O.D. x 5.7m (³ / ₈ " O.D. x 19')
8.0mm O.D. x 2.4m (⁵ / ₁₆ " O.D. x 8')	8.0mm O.D. x 2.4m (⁵ / ₁₆ " O.D. x 8')
8.0mm O.D. x 1.8m (⁵ / ₁₆ " x 6')	8.0mm O.D. x 1.8m (⁵ / ₁₆ " x 6')

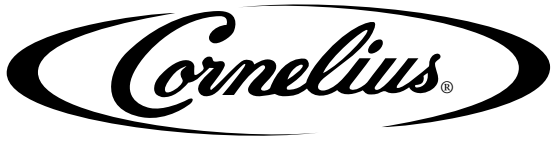
Note: All product coils are Grade 316 stainless steel

PRODUCT COILS:

Soda Pre – cool	
Soda Recirculation	
Still Water Coils	
5 Syrup Coils	

AGITATION:

Motor	6 W (output) 2 pole shaded pole open construction.
Protection	Internal one shot thermal fuse. Class 'F' insulation
Speed	2400rpm



CADET SR

3. INSTALLATION INSTRUCTIONS

GENERAL DESCRIPTION

The Cadet S.R. is a medium capacity soft drinks soda recirculating cooler for use with a remote carbonator. The air cooled and water cooled can be sited remotely, and the air cooled can also be sited under the counter.

The air cooled unit consists of two assemblies-

- i) the lid which includes the electrical supply lead and
- ii) the base which is supplied from the lid by means of its own plug and lead.

The water cooled unit consists of four assemblies

- i) the lid assembly which includes the electrical supply lead
- ii) the base which is supplied from the lid by means of its own plug and lead, and provides electrical and plumbing connections to the cooling system.
- iii) Discharge Unit
- iv) Coolant Recirculation Unit (CRU)

The water cooled model can be sited in a chilled cellar with minimal heat output. Heat is dissipated via a water/glycol mixture to an exterior wall mounted Discharge Unit. The coolant is pumped via a CRU sited near to the Cadet SR.

HANDLING AND TRANSPORTATION

Keep the cooler and CRU in an upright position and do not move them after filling.

INSTALLATION

(Air-cooled and Water-Cooled base units)

1. General

Installation must only be carried out by a suitably trained person and comply with national and local codes for connection to water and electrical supplies.

It is recommended that the installation is protected by and RCCB.

2. Siting

The cooler is designed for indoor use only, in ambients between 5°C and 32°C and should not be exposed to water spillage, spray, steam or high humidity (in excess of 90% rh)

- Allow 80mm clearance around the unit to aid air circulation.
- Air vents and louvres should never become obstructed or blocked, also access should be possible to the top lid and refrigeration compartment for ease of service.
- Site the cooler on a firm level support, protect from physical damage and do not place items on top. Locate the cooler within 2 metres of an earthed, switched, 13 Amp, 230 Volt socket which should be accessible for isolation of the equipment. The socket should be installed to current IEE regulations.

- A supply of cold, potable water for still water dispense, must be available with an accessible means of isolation. Pressure must be within the range 4 to 6 bar, with a minimum flow of 0.7 litres/min. A boost pump or pressure regulator may be required to ensure this.

3. For water cooled units only

- The Discharge Unit is designed to operate in the range of ambient temperatures from -10°C to 32°C. It should be mounted in a cool, well ventilated position on a wall and protected from physical damage. The position of the unit can be a maximum of 30m from the base unit and access must be provided for pipes and electrical cable. Secure the unit to the wall in a manner capable of supporting 9 kg of weight.
- Mount the CRU on a wall above the Cadet SR, and within 2 metres of the 230 volt outlet socket at the back of the Cadet SR.

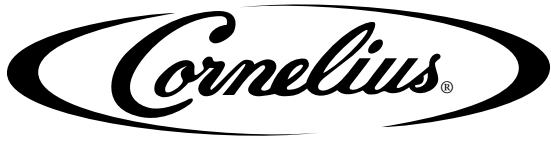
4. Installation

- The appliance must be earthed.
- With the unit unpacked and in position, remove all of the water and product coil caps.
- Ensure all panels are secured in position.
- At this stage do NOT connect the electrical supply.
- Filling the water bath
Do not use de-ionized water or add any substance to the water.
Do not leave hose pipes unattended whilst filling the water bath as the unit may become flooded.
Remove the filler cap and fill the bath with cool, clean, water until the water flows from the overflow.

5. Python installation

The submersible soda pump (indicated on the main plumbing label) must never be allowed to run dry, but the soda recirc tubes may be looped and primed with potable tap water after which the cooler may be switched ON to enable the Cadet to build ice whilst installation work is completed.

- The alternative stainless steel pump can be switched off by the pump switch sited on the front electrics panel.
- Connect the python to the dispense head(s), then disconnect the Cadet from its electrical supply.
- Remove the soda recirc loop.
- Connect all carbonated water, still water and product lines in accordance with the labelling on the cooler.
- Using the carbonator as a CO₂ supply, purge air from the water recirc lines before turning the water supply on.
- A wireable plug is provided as an option for electrical supply from the cooler to the carbonator and is rated at 230 Volt, 2 Amp.



CADET SR

6. Additional Instructions for Water Cooled Cadet SR. with CRU and Discharge Unit

The base unit, CRU, and discharge unit have labelled connections to aid the assembly of the cooling system.

- Fit the shut – off valves to the coolant flow and return lines at the rear of the Cadet SR.

The CRU should only be connected to the rear socket on the Cadet SR. Under no circumstances should it be adapted for use direct from the mains supply.

- Fit the shut – off valves to the coolant flow and return lines on the CRU.
- Fit the shut – off valves to the coolant flow and return lines on the Discharge Unit.

The Discharge Unit is powered by a 24V supply taken from the CRU. Using 0.75mm² twin electrical cable, connect to the terminals on the Discharge Unit and CRU.

- Connect the flow and return piping according to the circuit diagram (do not insulate). Ensure flow and return lines are not in contact.

All shut – off valves must be in the open position when installation is complete, prior to start-up.

- On completion of all electrical connections and plumbing, fill the CRU tank with a 30% glycol/70% water mix by volume to the indicated level, which is in the window on the front of the unit, using the Cornelius glycol supplied with the equipment.
- Switch ON the Cadet unit. With the complete system running, the CRU liquid level may drop. Top up to the indicated level if necessary with the correct glycol mixture. Check for leaks in the coolant system and rectify if necessary.

The cooling system is now correctly installed.

7. Priming the python

- Once the dispense system is fully connected, proceed to prime the soda recirc lines.
- Open a dispense valve until carbonated water is seen.
- Draw 4.5 litres (8 pints) of carbonated water, 0.285 litre ($\frac{1}{2}$ pint) at a time, with 5 second intervals.

3.1 COOLANT RECIRCULATION UNIT (CRU) INSTALLATION INSTRUCTIONS

1. Mount the CRU on a wall above the Cadet SR, and within 2 metres of the 230 volt outlet socket at the back of the Cadet SR.
2. Fit the shut-off valves (supplied) to the coolant flow and return lines on the CRU.

Note: Ensure that valves are in the open position when installation is complete, prior to start-up.

3. Connect CRU power supply lead to the outlet socket at the rear of the Cadet SR.

Note: The CRU should only be connected to the Cadet SR. Under no circumstances should it be adapted for use direct from mains supply.

Connect flow and return piping according to the circuit diagram (do not insulate). Ensure flow and return lines are not in contact.

4. Fill the tank with the 30/70% glycol/water mix to the indicated level. When the complete system is installed and running, the liquid level may drop. On the completion of electrical connections and plumbing, top up to the indicated level again, if necessary.

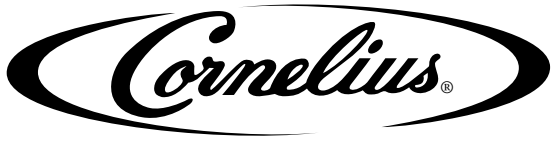
3.2 DISCHARGE UNIT INSTALLATION INSTRUCTIONS

1. Mount the Discharge Unit in the required remote position, and provide access for pipes and cables to the CRU (maximum 30 metres from the CRU).
2. Fit the shut-off valves (supplied) to the coolant flow and return lines on the Discharge Unit.

Note: Ensure that valves are in the open position when installation is complete, prior to start-up.

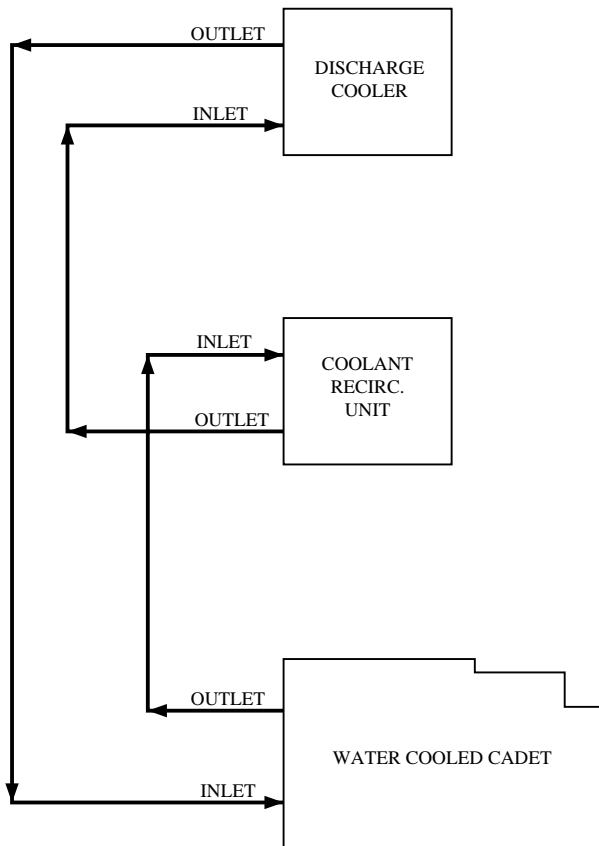
3. The discharge unit is powered by a 24V supply taken from the CRU. Using 0.75mm² twin electrical cable, connect to the terminals on the Discharge Unit to the CRU.
4. Connect flow and return piping according to the circuit diagram (do not insulate). Ensure flow and return lines are not in contact.

The unit is now ready to run, when the Cadet SR and the CRU are correctly installed.



CADET SR

4. RECIRCULATION CIRCUIT OF WATER COOLED SYSTEM



5. SERVICE INFORMATION (faults/repairs)

There are no user serviceable items inside the equipment. Maintenance and repairs must only be carried out by a properly qualified and trained person. Switch off the mains electrical supply and unplug the equipment if it malfunctions or suffers spillage or physical damage.

In the event of component failure, SWITCH OFF AND UNPLUG the unit.

Access to:-

- The compressor electrics, thermostat and condenser fan can be made by removing the fan door assembly which is retained by a single screw and lift off hinges.
- The submersible soda recirculation pump motor and separate agitator is by removing the pump cover. The pump motor can be removed by disconnecting electrical connections, undoing the locking screws on the pump plate and twisting the assembly clockwise to enable the motor to be lifted clear.
- The alternative top mounted pump assembly motor is by removing the agitator and electrics cover, disconnecting all electrical connections to the motor

and removing the securing screws from the pump plate (to gain access to these screws the motor capacitor may require moving). When the motor is exchanged, hole positions and other supplies exist for alternatives.

Pumps can only be removed after the soda recirc system has been bled and depressurized. Once a pump is changed prime the system as illustrated in 'Priming the Python'

Additional Maintenance for Water Cooled Units.

Ensure grilles and condenser fins on the Discharge Cooler remain unobstructed and free from particles at all times to ensure reliable and consistent operation. Check the Discharge Cooler fan is working. This is controlled by a thermostat in the CRU and will operate when the coolant mix rises above 15°C – 20°C.

Check the coolant pipework for damage/leads and rectify if necessary.

Check the level of coolant in the CRU and refill if necessary, with a 30% Glycol/70% Water mix.

Refer to separate maintenance manual for further information.

6. USER MAINTENANCE

Switch off and unplug the unit during maintenance operations.

Do not attempt to remove any protective covers.

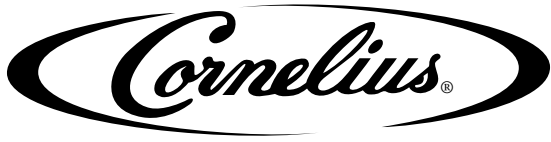
Ensure grilles and condenser fins remain unobstructed and free from particles at all times to ensure reliable and consistent operation. A soft brush or vacuum cleaner may be used for cleaning.

Sanitizing the pipelines – flush with water, followed by a chlorinated alkaline sanitizing agent and finally potable water flush when tainting is evident or when advised by the equipment installer or beverage supplier.

It is important that the sanitizing agent manufacturer's procedure and safety precautions are followed.

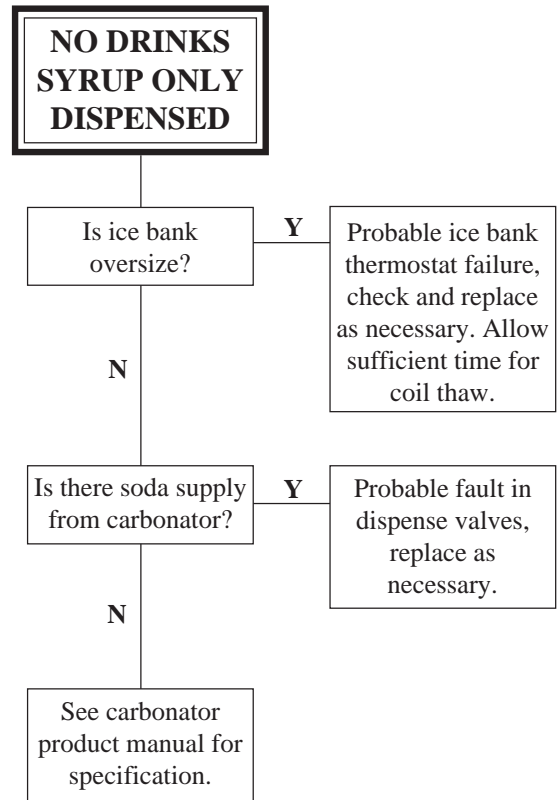
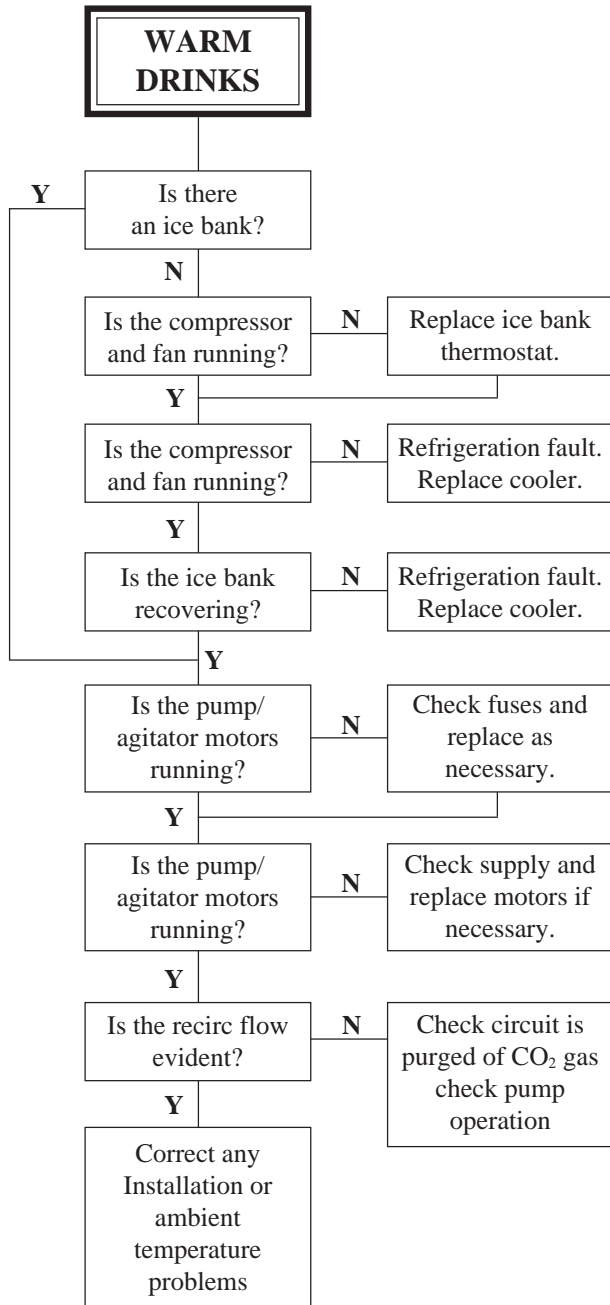
Ensure that objects are not placed on top of the unit as this may affect the units function.

The 1989 Electricity at Work Regulations require periodic testing of electrical equipment and this should only be carried out by a competent person.



CADET SR

7. FAULT FINDING AIR COOLED UNIT



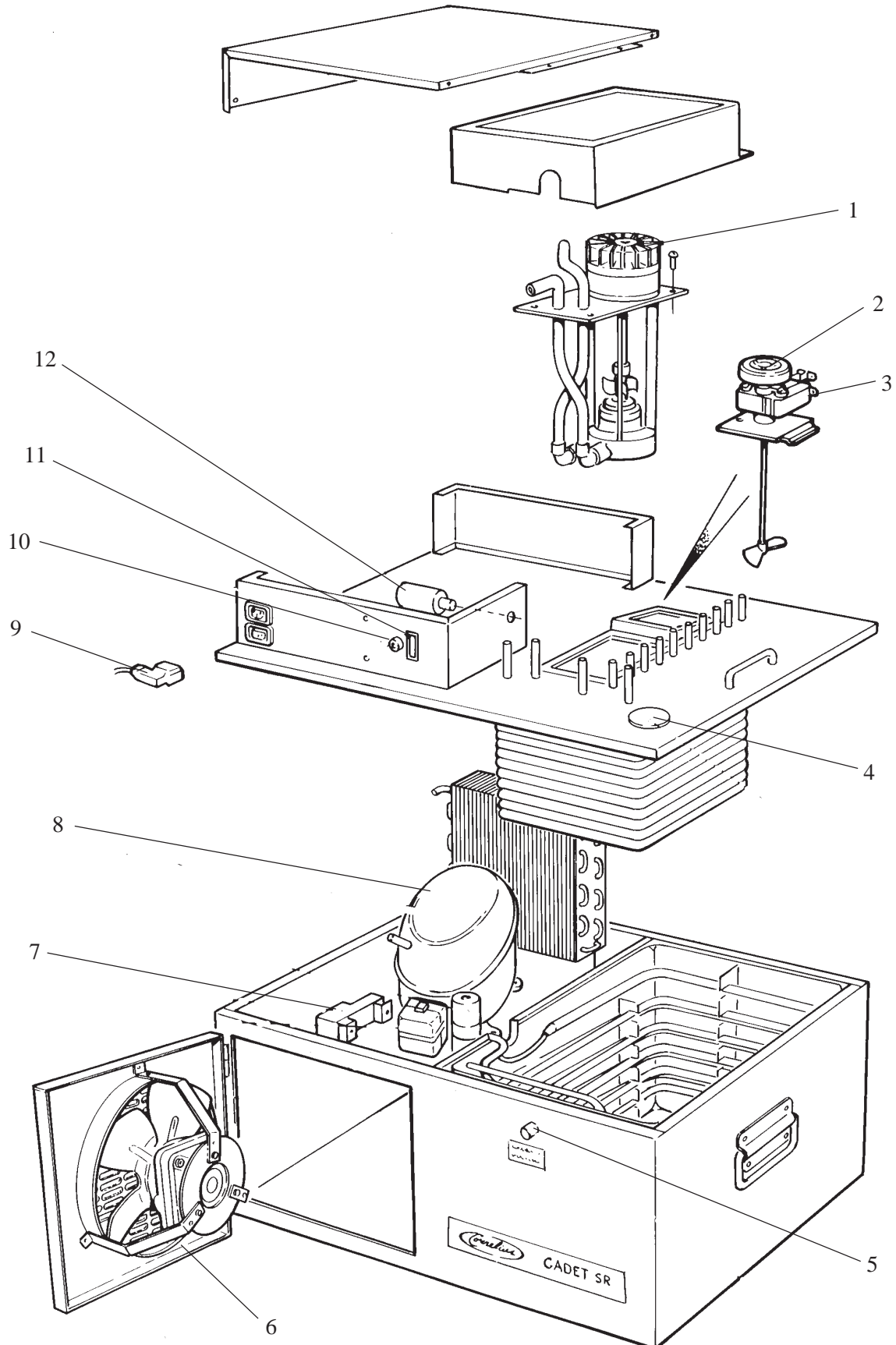


8. FAULT FINDING WATER COOLED UNIT

- ❖ **Fault finding is very similar to the air cooled model.**
- ❖ **Follow the air cooled table on the previous page, with the additions detailed below.**

Problem	Possible Fault	Possible Cause	Action
Product consistently too warm.	No ice bank or water bath too warm.	No coolant in CRU.	Refill with 30% Glycol 70% water. Check for leaks.
		Coolant pump in CRU failed.	Replace.
		Coolant not flowing through Discharge Cooler.	Check all the stop valves are open.
		Discharge Cooler airflow blocked.	Clear blockage. Clean fins as necessary.
		Discharge Cooler fan failed.	Replace.
		Damaged coolant recirc pipes	Repair.
Product too warm after a period of time.	Insufficient ice or slow ice build.	Discharge Cooler airflow blocked.	Clear blockage. Clear fins as necessary.
		Discharge Cooler fan failed.	Replace.

9. EXPLODED VIEW (AIR COOLED)





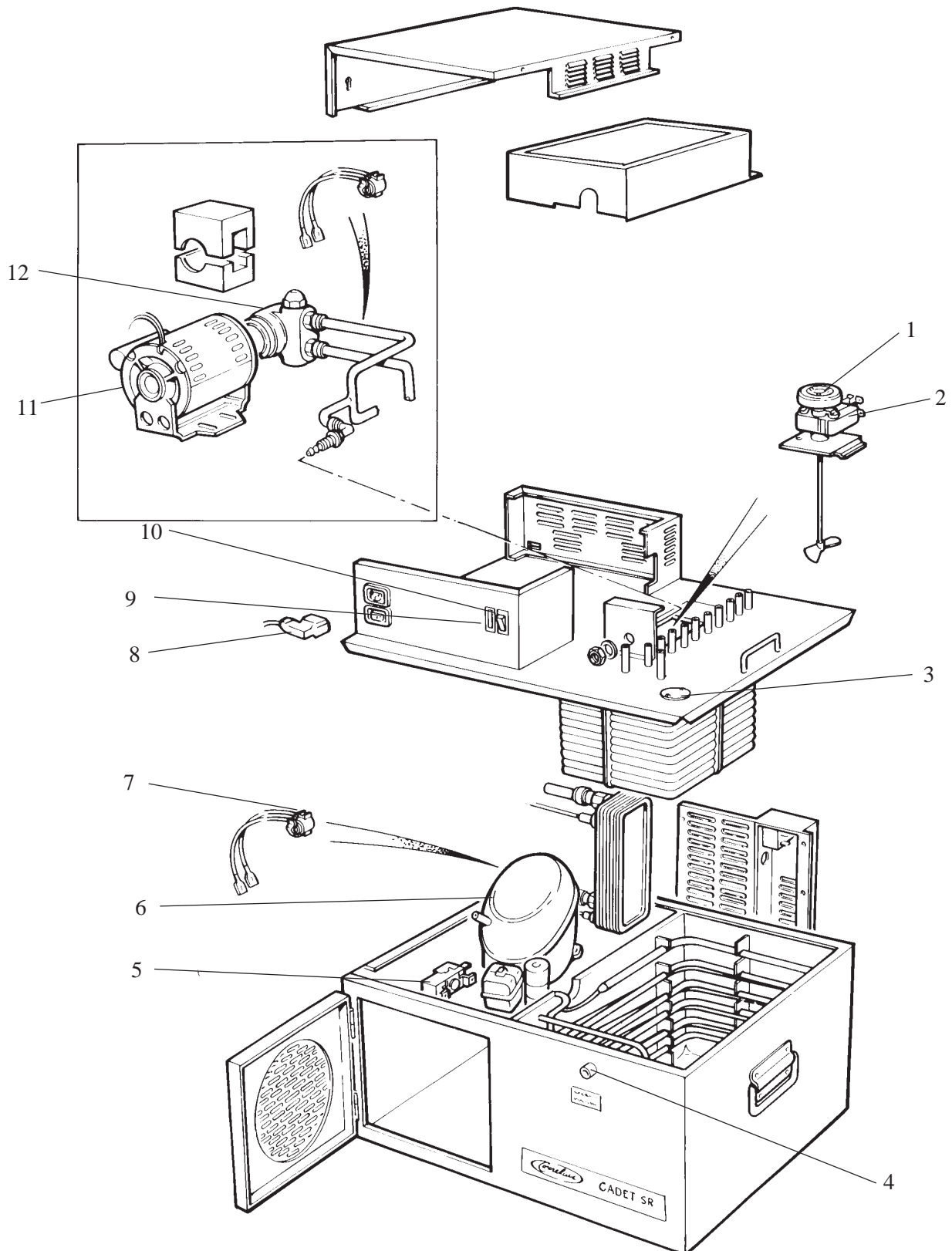
CADET SR

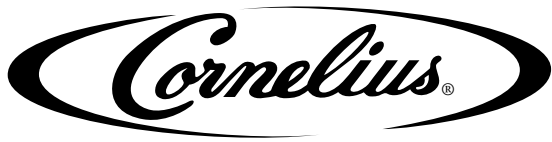


10. PARTS LIST (AIR COOLED)

ITEM No.	PART No.	DESCRIPTION	
1.	99 1100 003	Submersible Pump Assembly	
2.	99 2ZU702A	Agitator Assembly	
3.	03 IMR0 99A	Agitator Motor	
4.	58 0475 170	Filler Cap	
5.	99 1104 005	Overflow Outlet	
6.	99 1100 152	Fan Door Assembly	
7.	58 1174 007	Ice Bank Thermostat	
8.	44 0000 208	Compressor Set (Danfoss Compressor)	
	44 0000 233	Compressor Set (Electrolux Compressor)	
9.	58 0446 138	240V Auxilliary Plug	
10.	58 0440 346	Fuse 1.5 Amp	
11.	58 0440 408	Rocker Switch	
12.	99 1104 003	Pump Start Capacitor	
Not Shown	99 0420 089	Compressor Relay (for Danfoss Compressor)	
Not Shown	99 0420 175	Compressor Relay (for Electrolux Compressor)	
Not Shown	58 0420 193	Compressor Capacitor (for Danfoss Compressor)	
	99 0420 174	Compressor Capacitor (for Electrolux Compressor)	
Not Shown	58 0440 334	Mains Indicator	
Not Shown	58 0420 562	Pump – Rotoflow	
Not Shown	99 2874 305	Pump Motor (80w) Top Mounted	
Not Shown	99 2870 312	Carbonator Mounting Kit	

11. EXPLODED VIEW (WATER COOLED)





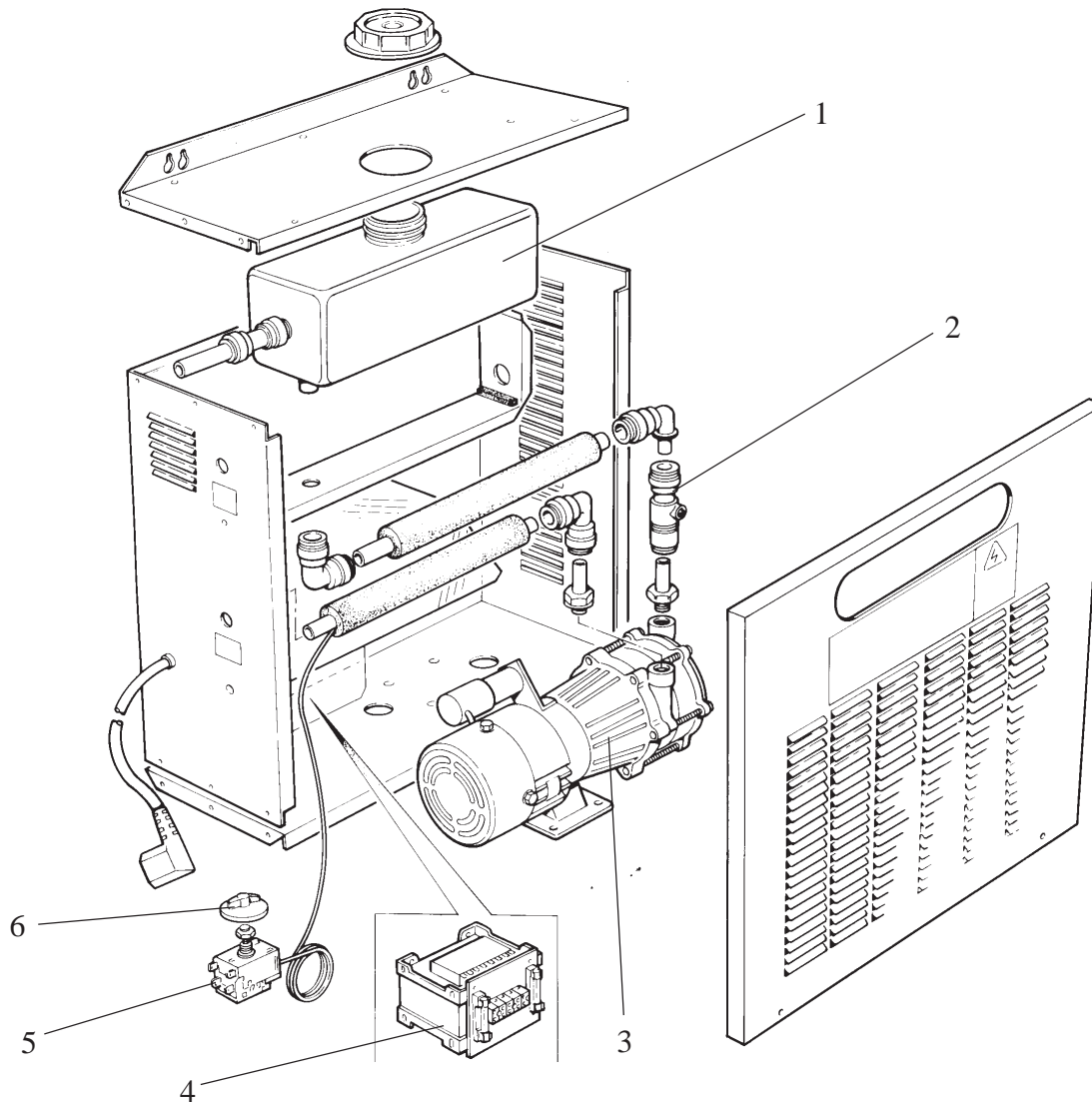
CADET SR



12. PARTS LIST (WATER COOLED)

ITEM No.	PART No.	DESCRIPTION	
1.	99 2ZU702A	Agitator Assembly	
2.	03 IMR0 99A	Agitator Motor	
3.	58 0475 170	Filler Cap	
4.	99 1104 005	Overflow Outlet	
5.	58 1174 007	Ice Bank Thermostat	
6.	44 0000 209	Compressor Set	
7.	58 0440 401	Thermal Cut-Out Switch	
8.	58 0446 138	240V Auxilliary Plug	
9.	58 0440 408	Rocker Switch	
10.	58 0440 334	Mains Indicator	
11.	99 2874 305	Pump Motor (80w) - Top Mounted	
12.	58 0420 562	Pump Assembly - Rotoflow	
Not Shown	99 0420 089	Compressor Relay (for Danfoss Compressor)	
Not Shown	58 0420 193	Compressor Capacitor (for Danfoss Compressor)	
Not Shown	58 0440 346	Fuse 1.5 Amp	
Not Shown	99 1104 003	Pump Start Capacitor	
Not Shown	99 2870 312	Carbonator Mounting Kit	
Not Shown	99 1100 132	Foot Kit	

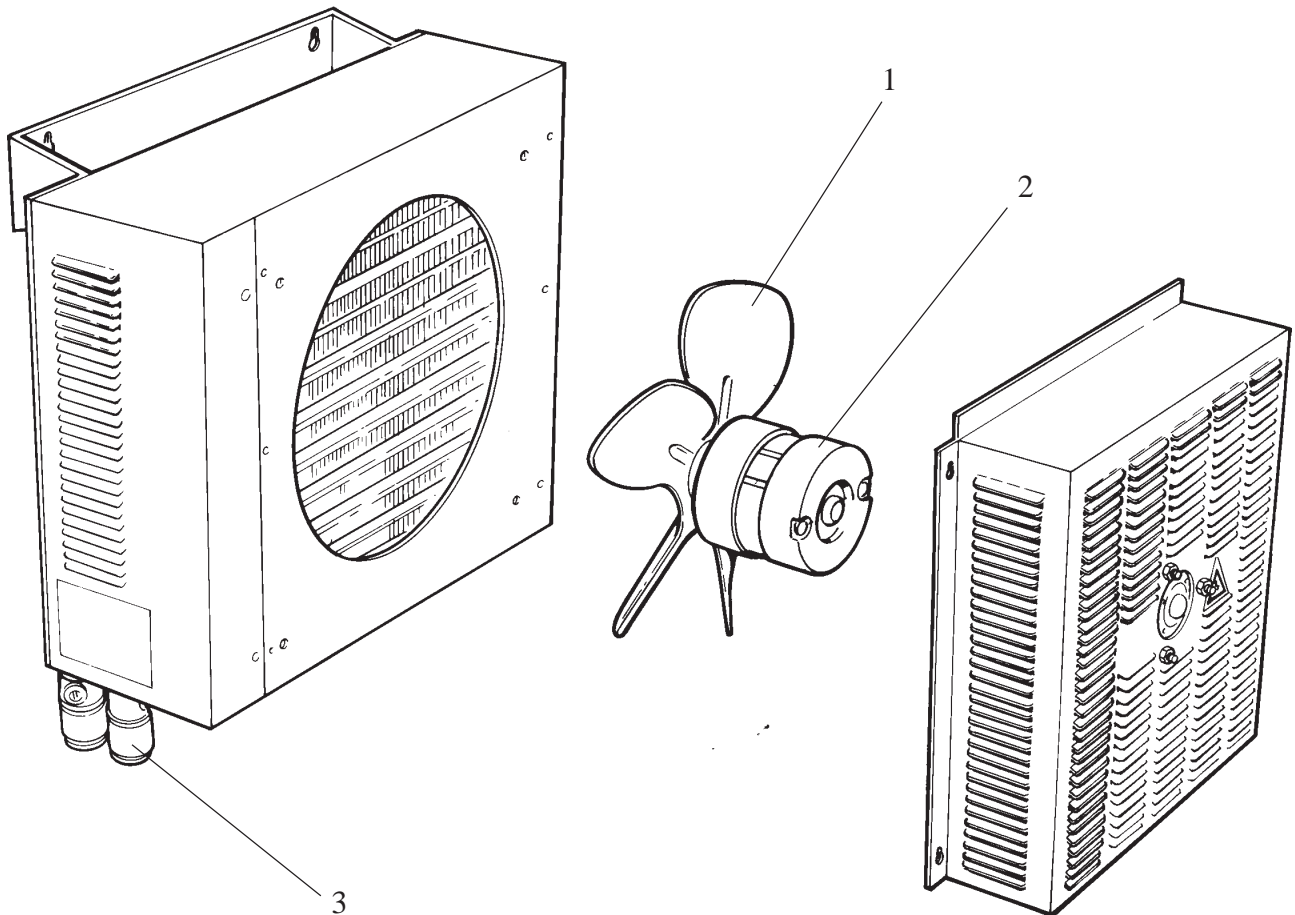
13. EXPLODED VIEW (COOLANT RECIRCULATION UNIT)



14. PARTS LIST (COOLANT RECIRCULATION UNIT))

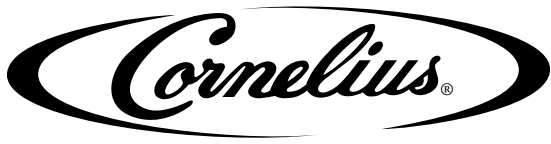
ITEM No.	PART No.	DESCRIPTION	
1.	58 2875 403	Tank Header	
2.	2ZU573A	Ball Valves 15mm	
3.	99 2874 401	Pump	
4.	2ER208A	Transformer 24V	
5.	58 0400 075	Thermostat	
6.	58 0475 060	Control Knob	

15. EXPLODED VIEW (DISCHARGE UNIT)



16. PARTS LIST (DISCHARGE UNIT))

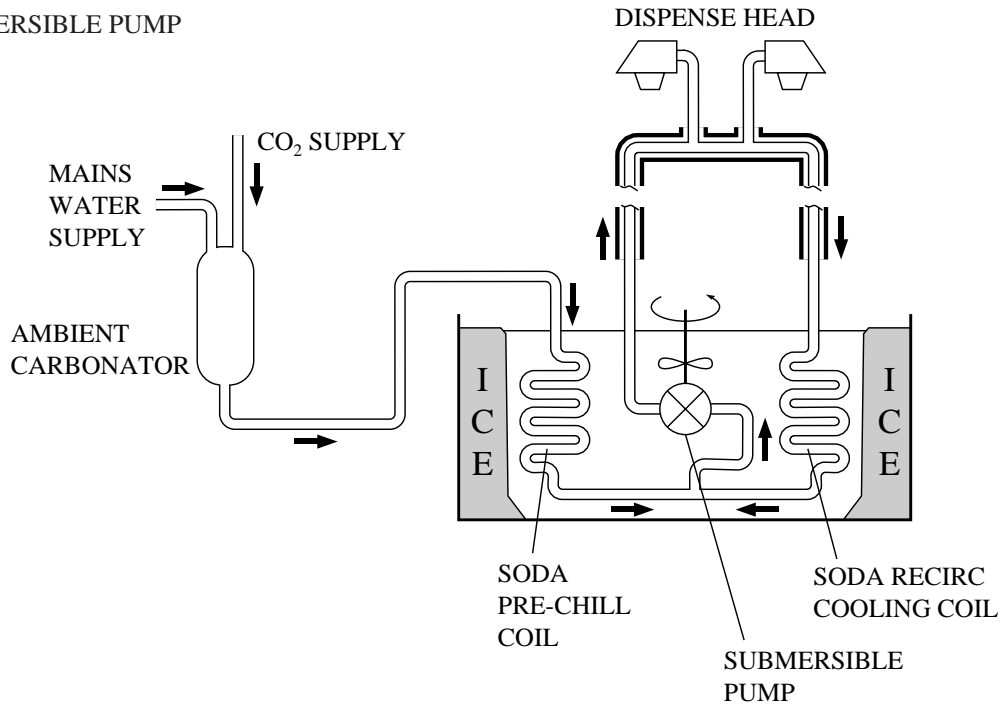
ITEM No.	PART No.	DESCRIPTION	
1.	2MP161A	Fan Blade	
2.	2MR400A	Fan Motor 24V 50Hz	
3.	2ZU 573A	Ball Valves 15mm	



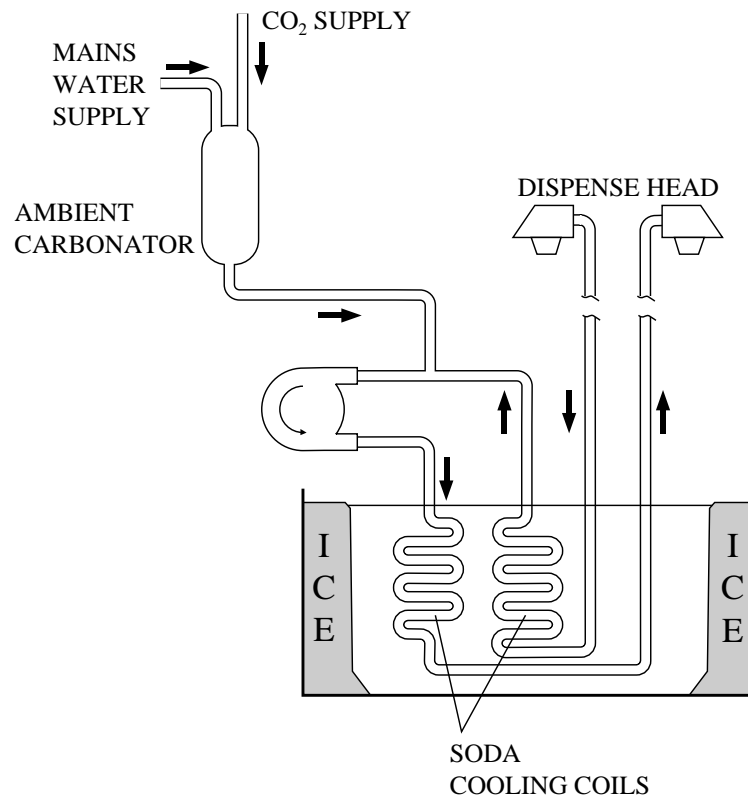
CADET SR

17. OPERATIONAL SCHEMATIC

17.1 SUBMERSIBLE PUMP

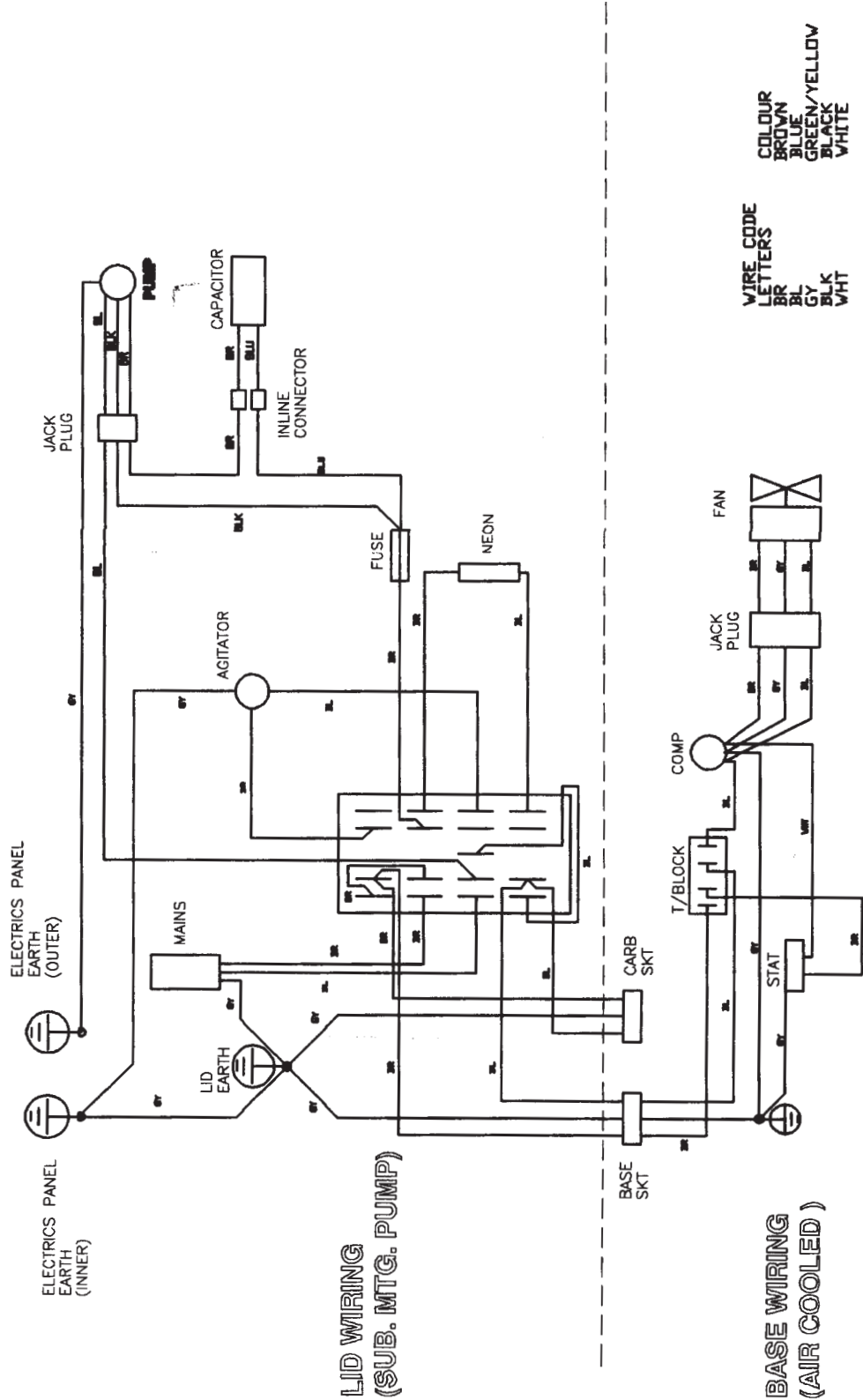


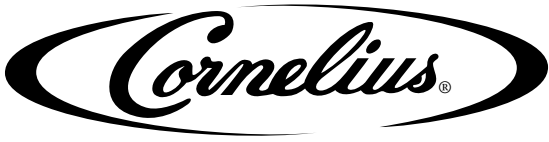
17.2 TOP MOUNTED PUMP



18. WIRING DIAGRAM

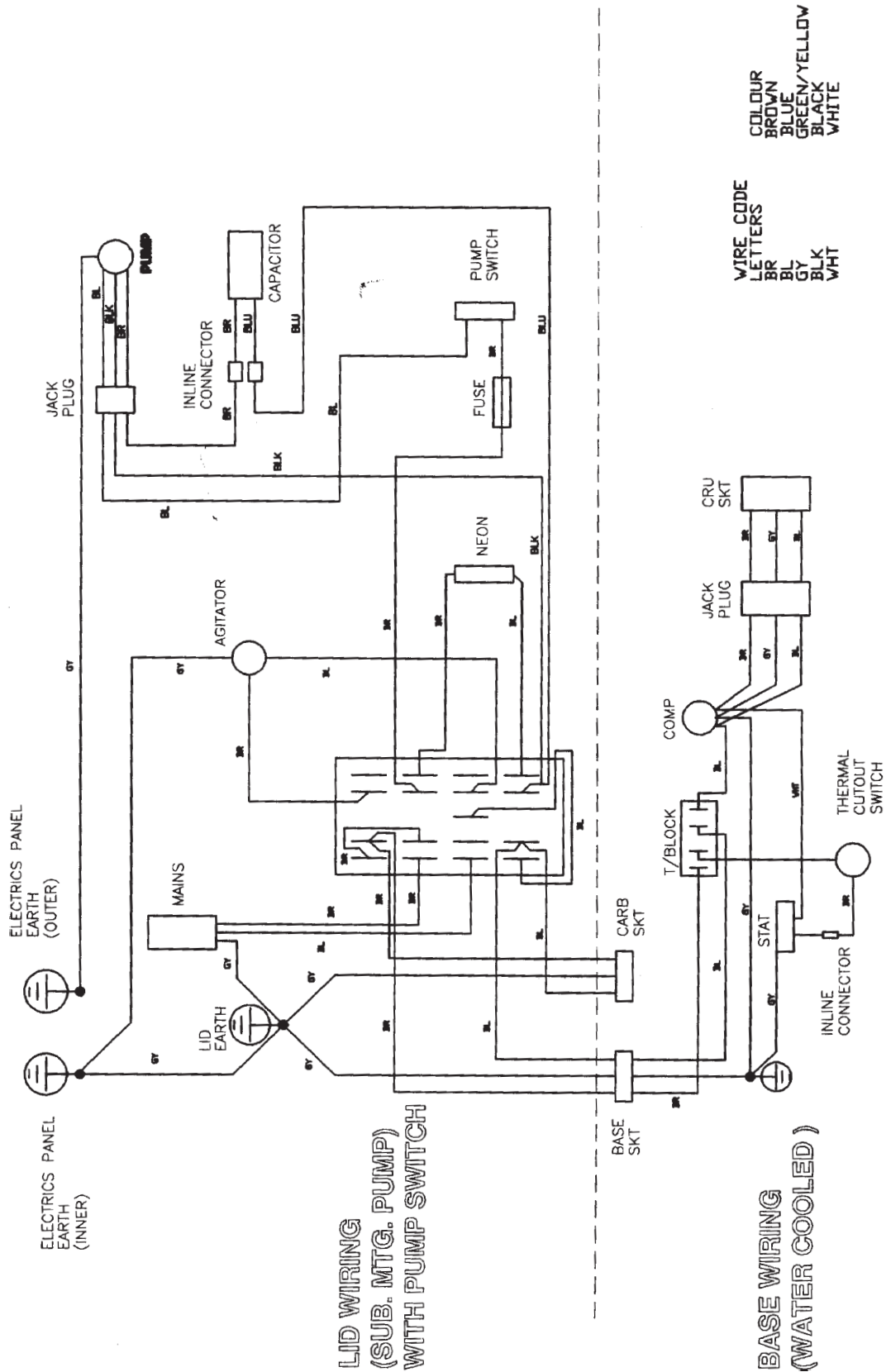
18.1 AIR COOLED SUBMERSIBLE PUMP

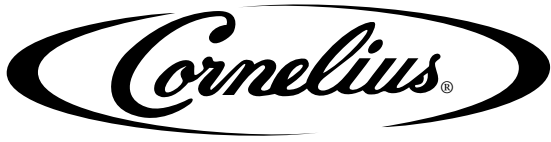




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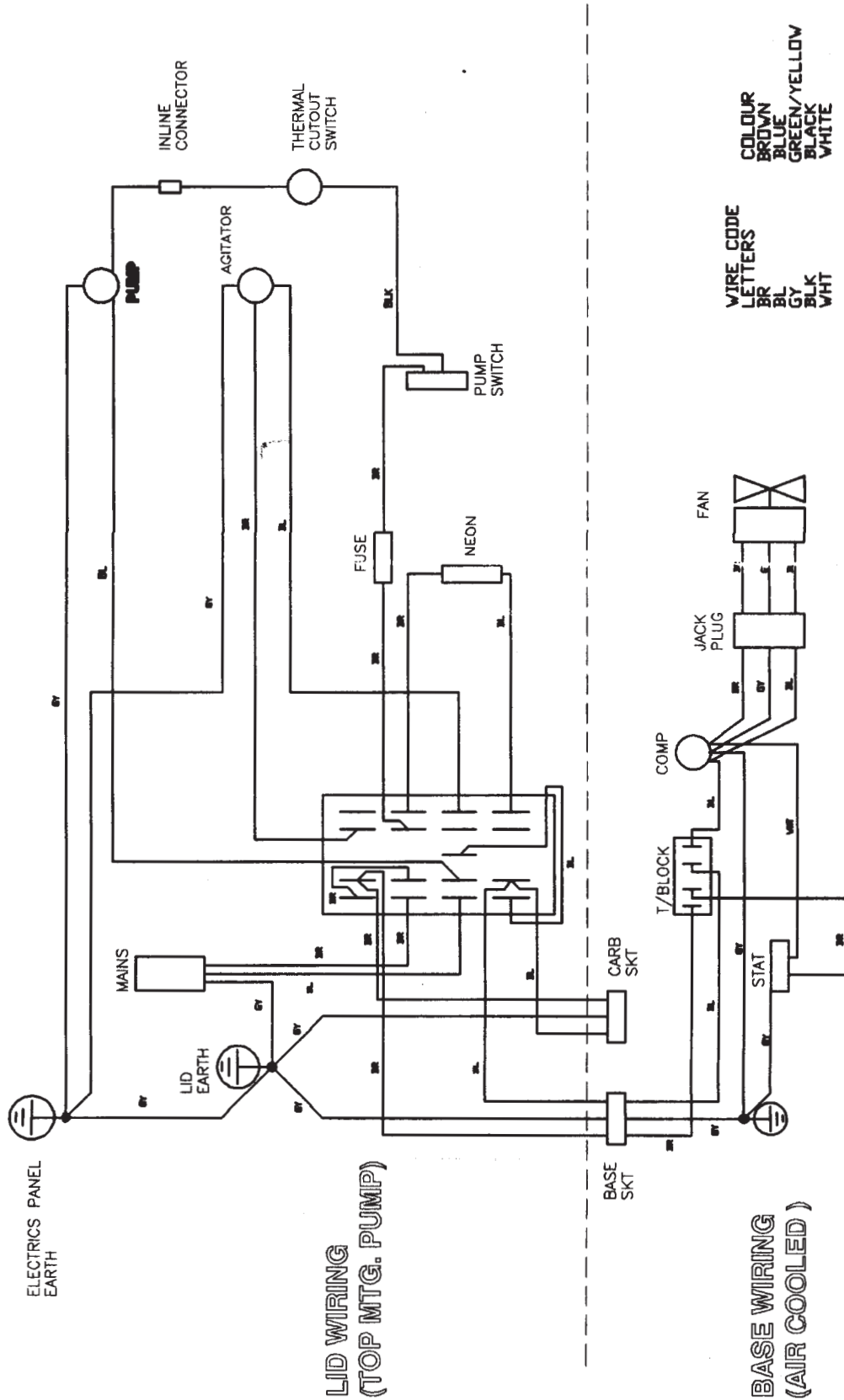
18.2 WATER COOLED SUBMERSIBLE PUMP



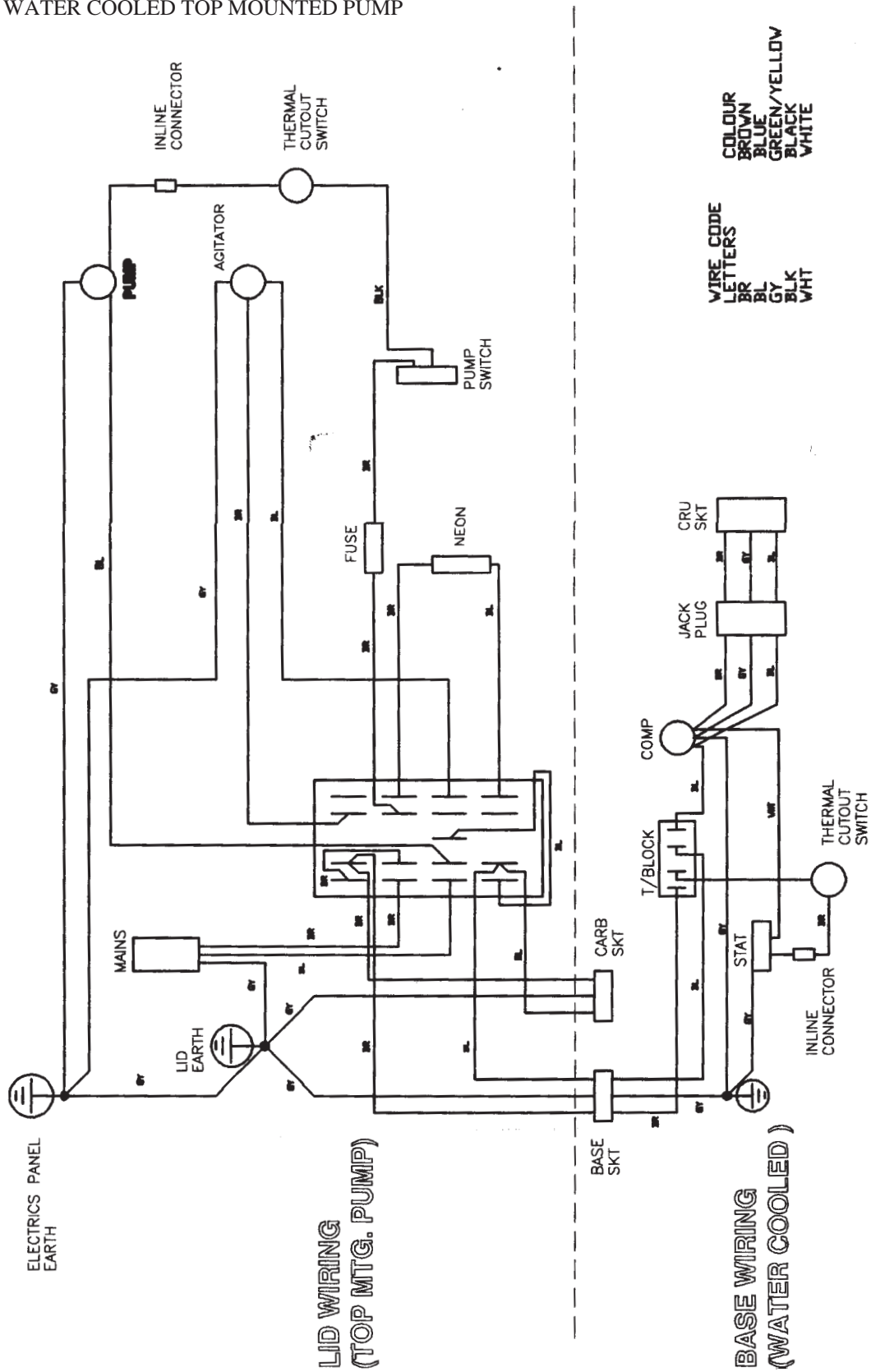


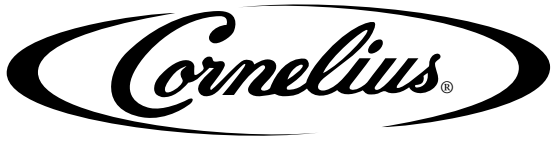
CADET SR

18.3 AIR COOLED TOP MOUNTED PUMP



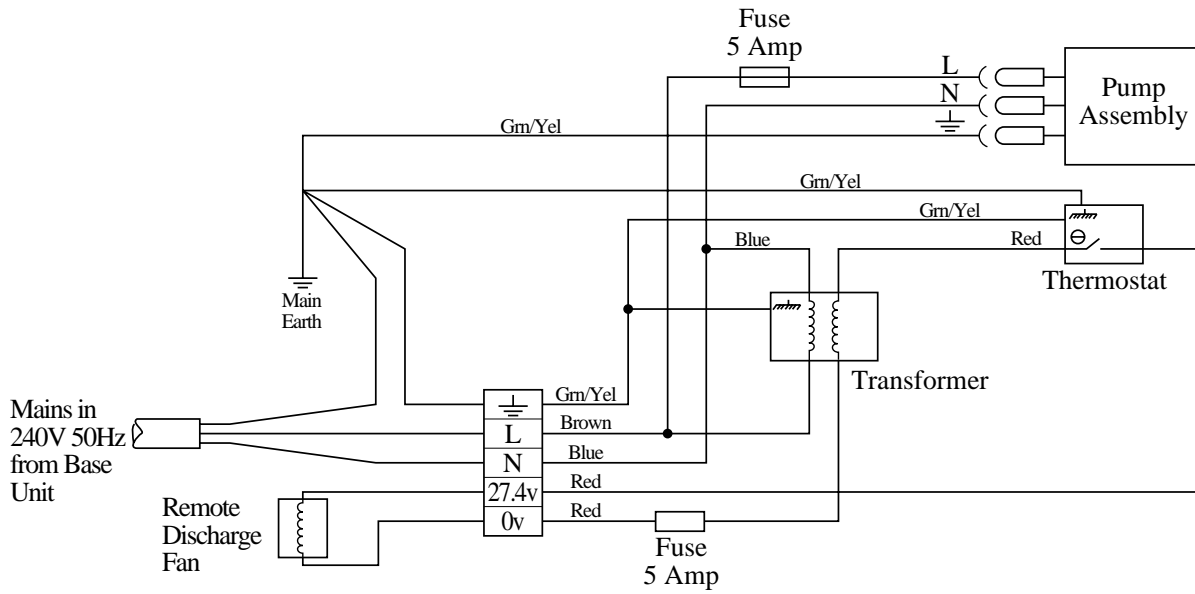
18.4 WATER COOLED TOP MOUNTED PUMP





CADET SR

19. CRU WIRING DIAGRAM



**OFFICE USE ONLY****Cornelius Account No.**

Post Code:

Post Code:

OFFICE USE ONLY

OFFICE USE ONLYTotal Cost

Delivery

VAT @ 17.5%

Total Order Value

IMI Cornelius standard terms & conditions of sale apply.

Please indicate payment method: ☐ Account ☐ Cheque ☐ Postal Order ☐ Access/Visa

Cheques or Postal Orders should be made payable to IMI Cornelius (UK) Ltd.

For  Access or  Visa Payments, please indicate your card number.

Expiry Date: _____

Signature: _____ Name: _____ Date: _____

Address: _____

Post Code: _____

Please return to: IMI CORNELIUS (UK) LTD Rawson Spring Way Riverdale Industrial Estate Sheffield S6 1PG

FAX: 0114 232 1070



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